

REMARKS

This Amendment is filed to revise the preambles of some of the claims and to remove means-plus-function language. These remarks respond to the objection to claims 19-24 and 27-32 and to the novelty rejection of claims 1-32 that appears in the Office Action of April 15, 2008.

Double patenting

The Examiner objects the claims 19—24 and 27—32 by stating that the claims are substantive duplicates. Claims 19—24 relate to a computer readable medium having a computer program stored thereon, whereas the claims 27—32 relate to a computer readable medium having video information stored thereon. In other words, the computer program controls forming bitstreams from video information, and the video information stored on the computer readable medium is a kind of a the product produced by the computer program. Therefore, applicant does not agree that they are substantial duplicates and withdrawal of the objection is requested.

35 USC § 102(e)

The Examiner has applied new prior art to reject all the claims. Martin (US 6,393,055) discloses a method of switching from a first to a second video sequence, in which it is provided, in order to avoid the creation of special access points such as splicing points defined in MPEG standard, to insert at the switching point, between the two sequences, an additional sequence of k pictures. These pictures, said minimal (sic) in that sense that they are coded with a reduced number of bits, may be for instance uniform colour pictures or the repetition of a single previous I or P picture. (Abstract)

The Examiner refers to the abstract, Fig. 5, col. 1, lines 7—35, col. 3, lines 40—65, col. 4, lines 15—20, 25—30 and col. 7, lines 19—50 to show that all features of the

independent claims are disclosed by Martin. It seems that the Examiner is not correct. The referred to passages fail to teach at least the following:

- macroblocks of a switching frame are arranged into a first group of macroblocks and a second group of macroblocks,
- encoding each macroblock of said first group of macroblocks by a first encoding method to provide a switching point for continuing transmission of video information with another bitstream formed from the video information; and
- encoding macroblocks of said second group of macroblocks by another encoding method.

Col. 4, lines 4—37 of Martin read:

According to the invention (see FIG. 2, explained later in a more detailed manner), it has therefore been decided to insert at the forward transition (when switching from the old sequence to the new one) an additional sequence of k pictures, delaying the new sequence by k periods $T(V)$. The number k is sufficient to allow $TS(NEW)$ to occur after $TS(OLD)$, and said k pictures have particular characteristics that allow them to be easily coded (they are represented by a few number of bits and are therefore called minimal pictures in the description).

The aim of the minimal pictures is, while the new sequence is delayed, to empty the decoder's buffer as soon as possible. A way to constitute such an additional sequence is for instance to consider a sequence of k uniform colour pictures (called UC pictures in the following) where all the pixels are identical (for instance an I picture and $(k-1).P$ pictures). Another solution is to consider a sequence of k P pictures, obtained for example by considering the pictures of said minimal sequence as copies of a previous I or P picture, which is equivalent, for the decoder, to freeze the last I or P picture of the old sequence during $(k.T(V))$ seconds.

In the case of k UC pictures, since all pictures are the same, the P pictures can be described, in the compression syntax, as copies of the first I picture with a minimum number of bits. Thus the additional processing step required to code said UC sequence is restricted to the encoding of the first I picture of this sequence.

In the case of k P pictures, these pictures are described by the MPEG-2 syntax as the copy of the previous one. In fact the effect of such a technical solution on the transition is the freeze of the last picture of the old sequence during $k.T(V)$ seconds instead of having UC pictures during the same period.

Col. 7, lines 40—50 of Martin disclose:

To solve the problem raised by the fact that first B pictures, at transitions, will be decoded by using prediction from a P picture of a completely different sequence, first B pictures of such non closed GOPs will be replaced by minimal pictures at transitions. In this case, these minimal pictures are bidirectional predictive-coded pictures in which only the first and last macroblocks of each slice are encoded with only forward prediction, null forward vectors and no error prediction (the other macroblocks are said skipped macroblocks). Thus a decoder will consider such minimal pictures as copies of the last presented I or P picture.

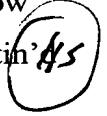
This passage does not teach that macroblocks of a first group and the second group are encoded using different encoding methods (only the first and last macroblocks of each slice are encoded with only forward prediction, the other macroblocks are skipped macroblocks).

According to Martin, additional “minimal” pictures are added when switching from one sequence to another sequence. The minimal pictures have particular characteristics that allow them to be easily coded. They can be copies of the first I picture or copies of a previous P picture. There is nothing in Martin which would lead a skilled person to the invention of the subject application. The minimal pictures represent whole pictures (copies of an I or a P picture) and the purpose of them is to empty the decoder’s buffer.

Step (4) and (4)(g) in Fig. 5 of Martin make it clear that these minimal pictures are considered by the decoder to be nothing more than copies of a last presented I or P picture and that are provided in an effort to ensure appropriate decoder buffer fullness by the encoding process.

In conclusion, regarding the independent claims, the Martin reference is inapplicable under 35 U.S.C. 102(e) and withdrawal of the rejection on that ground is requested.

Regarding claims 2, 8, 14, 20 and 28, while the end macroblocks (presumed first group) may be encoded by intra coding, the skipped macroblocks (presumed second group) use the same encoding since they are copies of a prior picture.

Regarding claims 3, 9, 15, 21 and 29, these depend from claims 2, 8, 14, 20 and 28, respectively. The Examiner merely repeats the same logic as used to reject claims 2, 8, 14, 20 and 28 except to suggest that the end of slice macroblocks may be encoded by predictive coding instead of intra coding. This fails to recognize that claims 3, 9, 15, 21 and 29 further limit claims 2, 8, 14, 20 and 28 with the end result (for example, trying to read claim 3 onto Martin) that the macroblocks at the ends of a slice would be encoded using intra coding and the macroblocks in-between the end macroblocks would be encoded using predictive coding (ignoring, for the sake of argument, the fact that the in-between macroblocks are skipped and are not really encoded at all because they are in reality not even present). Martin would show uniform encoding according to the Examiner's reading of the claim onto Martin's disclosure. 

Regarding claims 4, 10, 16, 22 and 30, and using the Examiner's previous analysis as the basis for concluding that the slices are encoded differently at the end macroblocks as compared to the those in-between (which is not admitted), it would be clear on that basis that all the slices would be arranged in the same way, i.e., with the end macroblocks arranged to be encoded one way and the in-between macroblocks to be encoded another way. In contrast, claims 4, 10, 16, 22 and 30 claim that macroblocks of one slice are arranged in one group and macroblocks of the other slices are arranged in a second group.

Regarding claims 5, 11, 17, 23 and 31, the Examiner's analysis is incorrect because the macroblocks at the ends of the slices are encoded the same way from picture to picture (as would be the supposed in-between macroblocks too). These end macroblocks (and in-between macroblocks) would correspond spatially from picture to picture and thus the rejected claims would not read onto these macroblocks.

Regarding claims 6, 12, 18, 24 and 32, it is not clear exactly how the Examiner is able to read these claims onto the cited Fig. 5 and the cited passages including the

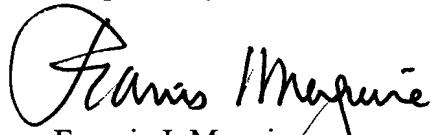
abstract; column 2, lines 60-67; column 3, lines 5-22; column 4, lines 15-30; and column 7, lines 19-60.

Regarding claims 25 and 26, as explained above, Martin does not show replacing part of the switching predictive encoded macroblocks with macroblocks encoded by an intra encoding method. Rather, Martin's pictures are encoded the same way at the ends of slices and refer back to an earlier picture also encoded the same way.

The rejections and objections of the Office Action of April 15, 2008, having been obviated by amendment or shown to be inapplicable, withdrawal thereof is requested and passage of claims 1-34 is earnestly solicited.

Enclosed herewith is a Petition for a one-month extension of time and a Fee Transmittal for two additional total claims accompanied by our check for \$540.00. If the Petition, Fee Transmittal and/or fee is missing or incorrect in some way please consider this paper as a petition for the appropriate extension period and deduct our credit our Deposit Account No. 23-0442 accordingly.

Respectfully submitted,



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